

## 6202.0 - Labour Force, Australia, Jul 2014

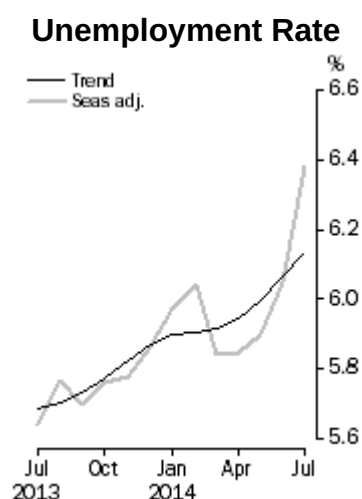
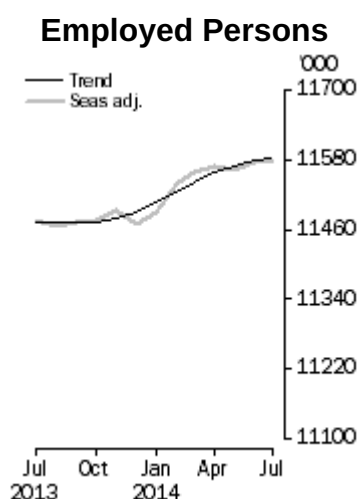
Previous ISSUE Released at 11:30 AM (CANBERRA TIME) 07/08/2014

## Summary

### Main Features

#### JULY KEY FIGURES

	Jun 2014	Jul 2014	Jun 14 to Jul 14	Jul 13 to Jul 14
<b>Trend</b>				
Employed persons ('000)	11 577.7	11 582.2	4.6	1.0%
Unemployed persons ('000)	747.3	756.7	9.5	9.4%
Unemployment rate (%)	6.1	6.1	0.1pts	0.4pts
Participation rate (%)	64.7	64.7	0.0pts	-0.2pts
<b>Seasonally Adjusted</b>				
Employed persons ('000)	11 576.9	11 576.6	-0.3	0.9%
Unemployed persons ('000)	745.2	789.0	43.7	15.1%
Unemployment rate (%)	6.0	6.4	0.3pts	0.7pts
Participation rate (%)	64.7	64.8	0.1pts	-0.1pts



#### JULY KEY POINTS

#### TREND ESTIMATES (MONTHLY CHANGE)

- Employment increased to 11,582,200 from a revised June 2014 estimate.
- Unemployment increased to 756,700.
- Unemployment rate increased 0.1 pts to 6.1%, based on unrounded estimates.

- Participation rate remained steady at 64.7%.
- Aggregate monthly hours worked increased 2.8 million hours (0.2%) to 1,610.9 million hours.

## **SEASONALLY ADJUSTED ESTIMATES (MONTHLY CHANGE)**

- Employment decreased 300 to 11,576,600. Full-time employment increased 14,500 to 8,077,400 and part-time employment decreased 14,800 to 3,499,200.
- Unemployment increased 43,700 to 789,000. The number of unemployed persons looking for full-time work increased 21,900 to 566,400 and the number of unemployed persons only looking for part-time work increased 21,800 to 222,600.
- The unemployment rate increased 0.3 pts to 6.4%.
- Participation rate increased 0.1 pts to 64.8%.
- Aggregate monthly hours worked decreased 14.8 million hours (0.9%) to 1,610.7 million hours.

## **NOTES**

### **FORTHCOMING ISSUES**

#### **ISSUE**

August 2014  
September 2014  
October 2014  
November 2014  
December 2014

#### **Release Date**

11 September 2014  
9 October 2014  
6 November 2014  
11 December 2014  
15 January 2015

## **WHAT'S NEW IN THE LABOUR FORCE**

For information on changes to Labour Force outputs and active job search steps, refer to 'What's New in the Labour Force' on pages 6-8.

## **ROUNDING**

Estimates of change shown on the front cover and used in the commentary have been calculated using unrounded estimates, and may be different from, but are more accurate than, movements obtained from the rounded estimates. The graphs on the front cover also depict unrounded estimates.

## **SAMPLING ERROR**

The estimates in this publication are based on a sample survey. Published estimates and the movements derived from them are subject to sampling variability. Standard errors give a measure of sampling variability (see Standard Errors section). The interval bounded by two standard errors is the 95% confidence interval, which provides a way of looking at the variability inherent in estimates. There is a 95% chance that the true value of the estimate lies within that interval.

## MOVEMENTS IN SEASONALLY ADJUSTED SERIES BETWEEN JUNE 2014 AND JULY 2014

	Monthly change	95% Confidence interval		
Total Employment	-300	-57 700	to	57 100
Total Unemployment	43 700	5 900	to	81 500
Unemployment rate	0.3 pts	-0.1 pts	to	0.7 pts
Participation rate	0.1 pts	-0.3 pts	to	0.5 pts

### INQUIRIES

For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070, email [client.services@abs.gov.au](mailto:client.services@abs.gov.au) or Labour Force on Canberra (02) 6252 6525, email [labourforce@abs.gov.au](mailto:labourforce@abs.gov.au). The ABS Privacy Policy outlines how the ABS will handle any personal information that you provide to us.

## Labour Force Commentary July 2014

### LABOUR FORCE COMMENTARY JULY 2014

#### NATIONAL ESTIMATES

Australia's unemployment rate increased by 0.3 percentage points (based on unrounded estimates) to 6.4% in July 2014 (seasonally adjusted). The increased unemployment rate resulted from increased participation with the number of persons in the labour force increasing by 43,400 persons, and the number of employed persons decreasing by 300. The net result was the number of unemployed persons increased by 43,700 to 789,000 in July 2014 (seasonally adjusted).

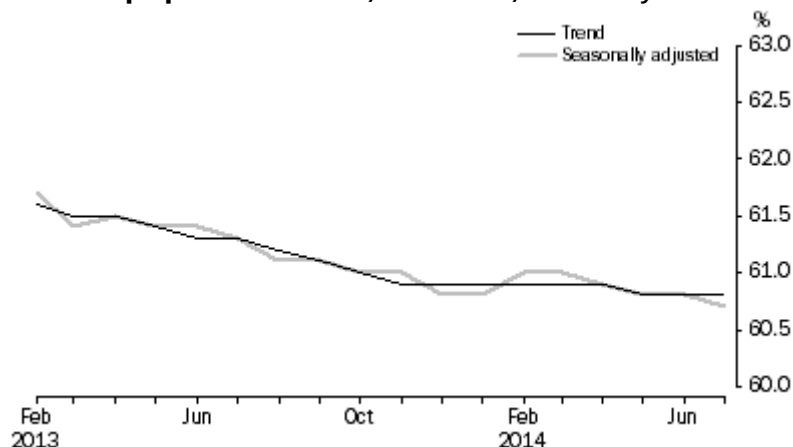
In trend terms the unemployment rate increased 0.1 percentage points (based on unrounded estimates) to 6.1% in July 2014, following a revision to the June 2014 estimate. The number of unemployed persons in July 2014 increased by 9,500 to 756,700. Trend estimates reduce the impact of the irregular component of the seasonally adjusted series and can provide a better basis for analysing the underlying behaviour of the series.

In original terms (where the seasonal and irregular influences have not been removed) the number of employed persons decreased by 11,900 persons between June and July 2014 and the number of unemployed persons increased by 19,300. The seasonally adjusted increase in unemployment was stronger than the increase in original terms, reflecting that historically there is usually a decrease in unemployed persons in July in original terms. The incoming rotation group for July 2014 had a lower proportion of employed persons and a higher proportion of unemployed persons compared to the sample it replaced. Therefore the incoming rotation group contributed more persons to the labour force and to the increased unemployment rate. The incoming rotation group contributed about one-third of the absolute change in the number of persons unemployed and 40% of the absolute change in male unemployment.

July 2014 saw the seasonally adjusted participation rate increase by 0.1 percentage points to 64.8%. The trend participation rate was unchanged at 64.7% in July 2014.

The seasonally adjusted number of employed persons decreased by 300 in July 2014 to 11,576,600 persons. In trend terms, employment increased by 4,600 persons to 11,582,200 persons in July 2014. The employment to population ratio, which expresses the number of employed persons as a percentage of the civilian population aged 15 years and over, decreased 0.1 percentage points to 60.7% (seasonally adjusted). The trend employment to population ratio remained steady at 60.8%, following a revision to the June 2014 estimate.

### Employment to population ratio, Persons, February 2013 to July 2014



Seasonally adjusted part-time employment decreased by 14,800 persons to 3,499,200 persons while full-time employment increased by 14,500 persons in July 2014 to 8,077,400 persons. The decrease in total employment resulted from:

- a decrease in male part-time employment, down 21,500 persons
- a decrease in female full-time employment, down 5,100 persons
- an increase in female part-time employment, up 6,700 persons
- an increase in male full-time employment, up 19,600 persons.

Seasonally adjusted aggregate monthly hours worked decreased by 14.8 million hours (0.9%) in July 2014 to 1,610.7 million hours.

### STATE ESTIMATES

The largest absolute increases in seasonally adjusted unemployment were in Victoria (up 14,500 persons), Queensland (up 12,100 persons) and New South Wales (up 8,100 persons). The largest absolute decrease in seasonally adjusted unemployment was in South Australia (down 1,300 persons).

The largest absolute decreases in seasonally adjusted employment were in Queensland (down 12,600 persons), South Australia (down 4,200 persons) and New South Wales (down 4,200 persons). The largest absolute increase in seasonally adjusted employment was in Victoria (up 14,600 persons).

Victoria had the largest increase in the seasonally adjusted participation rate (up 0.5 percentage points) and South Australia the largest decrease (down 0.4 percentage points).

Seasonally adjusted estimates are not published for the territories.

## Unemployment rate, State and Territories, June 2014 and July 2014

	Trend June %	July %	Seasonally Adjusted June %	July %
New South Wales	5.7	5.8	5.7	5.9
Victoria	6.6	6.6	6.6	7.0
Queensland	6.4	6.5	6.3	6.8
South Australia	7.0	7.1	7.3	7.2
Western Australia	5.0	5.0	5.0	5.2
Tasmania	7.5	7.5	7.3	7.6
Northern Territory	4.5	4.8	np	np
Australian Capital Territory	3.8	3.9	np	np
<b>Australia</b>	<b>6.1</b>	<b>6.1</b>	<b>6.0</b>	<b>6.4</b>

np not available for publication but included in totals where applicable, unless otherwise indicated

## What's new in the labour force

### WHAT'S NEW IN THE LABOUR FORCE

#### CHANGES TO LABOUR FORCE OUTPUTS

Changes to standard Labour Force products will be implemented from the July 2014 to May 2015 issues of this and related publications. These changes have arisen from the ABS review in 2010-11 of content included in the labour household survey program, as described in the Information Paper: Outcomes of the Labour Household Surveys Content Review, 2012 (cat. no. 6107.0).

There are no changes to the pdf, spreadsheets or data cube in this issue. However, there will be changes to the related detailed monthly and quarterly releases.

The following outputs were produced for the final time with the June 2014 issue of the detailed monthly Labour Force release (cat. no. 6291.0.55.001) and will not be available with the July 2014 or future issues:

- Spreadsheet tables 15a and 15b;
- Data cube EM2 - this will be replaced by two separate data cubes from the January 2015 issue;
- Data cube UM1;
- Data cube RM2.

The following outputs were produced for the final time with the May 2014 issue of the detailed quarterly Labour Force release (cat. no. 6291.0.55.003) and will not be available with the August 2014 or future issues:

- Data cube EO1;
- Data cube UQ2 - this will be replaced by two separate data cubes from the November 2014 issue;

- Data cube UQ3 - this will be replaced by two separate data cubes from the November 2014 issue.

The above products have been ceased due to:

- duration of unemployment since last full-time job no longer being collected as this item was replaced by duration of unemployment in 2001 and is therefore obsolete (Spreadsheet tables 15a and 15b; Data cubes UM1 and RM2), and
- expanded scope and changed response categories for employed persons who worked fewer than their usual number of hours during the reference week (Data cube EM2 which will be replaced, and Data cube EO1 for which the information will largely be available in other products).

The definition of duration of unemployment will change from the July 2014 issue of the detailed monthly Labour Force release (cat. no. 6291.0.55.001). The last job to break a period of job search no longer needs to be of a duration of two weeks or longer. Instead any job (of greater than one hour) can break a period of looking for work. This makes it consistent with the definition of employment where any work of one hour or more in the reference week counts as employment.

Further information on changes to outputs is available in the Information Paper: Forthcoming Changes to Labour Force Statistics (cat. no. 6292.0), released on 26 June 2014.

## **REVISION TO ACTIVE JOB SEARCH STEPS**

The ABS has refined some of the questions asked about job search steps in the Labour Force Survey (LFS) questionnaire to better reflect the nature of job search practices in Australia and to better align with international standards. This note outlines the previous practice, what the changes are, the reasons for the changes and the impact on estimates of unemployment.

In accordance with international standards the ABS includes an 'active' job search criteria to define the unemployed population in the LFS. 'Active' job search steps are those which put a person in contact with prospective employers for work, either directly or through intermediaries (such as employment services, agencies or recruiting firms), or represent steps towards 'self-employment'. People who only looked in newspapers or read job advertisements on the internet are not considered actively looking for work, as it is impossible to obtain work without some additional active job search step (for example, contacting the employer).

To maintain consistency in the underlying concept of active job search over time, it is necessary to periodically review the steps which are considered active to reflect current and emerging practices in the labour market. For example, in July 2011 looking on the internet was added to looking in newspapers as a passive job search step and reference to Centrelink touch screens was removed.

## **WHAT CHANGES HAVE OCCURRED?**

Changes to the job search steps were made to the LFS questionnaire from July 2014. These changes aim to more accurately reflect the role of Centrelink in relation to job seekers, to provide greater consistency of treatment of certain job search steps, and to

include logical job search steps that were not previously included.

Two new active job search steps have been included in the survey:

- 'had an interview with an employer for work' and
- 'taken steps to purchase or start your own business'.

Having an interview with an employer is a logical step in the process of getting a job, and given that it may take some time for people to be offered a job after applying (during which time they may attend an interview), including this as an active job search step means that people who are in the process of being considered for a job will not necessarily change from being classified as unemployed to not in the labour force if there are time lags between applying for, being interviewed for and being offered a job.

The previous suite of job search steps did not consider steps taken to start or purchase a business as an active job search step. Activities such as applying for an Australian Business Number or licences, or seeking finance to establish or purchase a business, or obtaining premises or equipment, are considered job search activities for people who are looking to be 'self-employed', i.e. working in their own business. The recognition of these as active job search steps was agreed to at the 19th International Conference of Labour Statisticians, in October 2013, where the standards for work, employment and labour underutilisation were revised.

In addition, two steps which were previously 'active' steps are no longer considered sufficient for a person to be classified as actively looking for work. These are 'checked notice boards' and 'been registered with Centrelink as a jobseeker'.

Previously, the step 'looking in newspapers or on the internet' was not an active job search step, as without taking further steps (such as responding to an advertisement or applying to an employer for a job) a prospective employer would not be made aware that the person was looking for work. Checking notice boards is not conceptually different from checking in newspapers or on the internet, so should be treated in the same way (as not an active job search step), and has been rolled into the current response 'looking in newspapers or on the internet'.

The role of Centrelink in relation to job seekers has changed over time. The core function of Centrelink in relation to job seekers is in the administration of income support, rather than directly supporting job search activities. While registering with Centrelink as a job seeker is a necessary step in order to receive government income support, it is not a step relating to actual job search. Job seekers would need to take active job search steps, in order to be considered actively looking for work.

See the Glossary for the list of job search steps classified as active from July 2014.

## **IMPACT ON ESTIMATES OF UNEMPLOYMENT**

The changes in job search steps could, potentially, change the labour force status of persons between unemployed and not in the labour force. Prior to their introduction the net impact of the changes was assessed as unlikely to be statistically significant and, as accurately measuring any impact is expensive and complex, the ABS did not introduce special measurement arrangements. The ABS did, however, analyse how many respondents in July 2014, compared to historical patterns, were asked which active and passive job search steps they had undertaken in the reference week. There is no evidence

that the introduction of the new active job search steps and the changing of two active steps to passive has had a significant impact on the estimates for unemployment and not in the labour force. In addition, changes in participation and the number of unemployed persons did not occur in a consistent manner across states and territories, males and females, and age groups. This further supports the conclusion that the new questionnaire had no systematic impact on the estimates of unemployed persons and persons not in the labour force.

The changes would not have had any impact on the estimates of employed persons.

## Article Archive

This section provides an archive of articles and analysis published in Labour Force, Australia (cat. no. 6202.0), promoting the effective use of labour force statistics. Articles are sorted by publication date.

Articles on labour related topics are also available in Australian Labour Market Statistics (cat. no. 6105.0) and Australian Social Trends (cat. no. 4102.0).

### Labour Force Survey Archive

What's new in the Labour force	June 2014
What's new in the Labour force	May 2014
What's new in the Labour force	February 2014
Rebenchmarking Labour Force Estimates to the 2011 Census of Population and Housing	January 2014
What's new in the Labour force	December 2013
Understanding the Australian Labour Force using ABS statistics	December 2013
What's new in the Labour Force	November 2013
Understanding full-time/part-time status in the Labour Force Survey	September 2013
What's new in the Labour Force	September 2013
Fact sheet did you know - Underemployment	June 2013
What's new in the Labour Force	June 2013
New Labour Force Sample Design	May 2013
Annual Seasonal Reanalysis	May 2013
What's new in Labour Force	May 2013
Transition to online collection of the Labour Force Survey	April 2013
What's new in Labour Force	April 2013
Estimating Jobs in the Australian Labour Market	February 2013
Forthcoming improvements to the content of the Labour Force and Labour Supplementary Surveys	January 2013
What's new in Labour Force	January 2013
Understanding the Australian Labour Force using ABS statistics	January 2013
Rebenchmarking of Labour Force Series	November 2012
Upcoming changes to the Labour Force Survey	July 2012
Labour Household Surveys content review and the Labour Force Survey	June 2012



Employment and mining in Queensland, New South Wales and Western Australia	May 2012
ABS Response to recent concerns expressed about employment estimates	April 2012
Population Benchmarks and Labour Force Survey	April 2012
Annual Seasonal Reanalysis	March 2012
Exploring Labour Force Data on joblessness	February 2012
Employment level estimates versus employment to population explained	January 2012
Understanding the Australian Labour Force using ABS statistics	November 2011
Historical Revisions	February 2011
Impact of the floods on the Labour Force Survey	January 2011

## About this Release

Summary results of the monthly Labour Force Survey containing estimates of employed and unemployed persons classified by sex, full-time/part-time status, states and territories and some age groups; and persons not in the labour force.

# Explanatory Notes

## Explanatory Notes

### EXPLANATORY NOTES

#### INTRODUCTION

**1** This publication contains estimates of the civilian labour force derived from the Labour Force Survey component of the Monthly Population Survey. The full time series for estimates from this publication are also available electronically. More detailed estimates are released one week after this publication in various electronic formats - see Labour Force, Australia, Detailed - Electronic Delivery (cat. no. 6291.0.55.001) and Labour Force, Australia, Detailed, Quarterly (cat. no. 6291.0.55.003).

#### CONCEPTS, SOURCES AND METHODS

**2** The conceptual framework used in Australia's Labour Force Survey aligns closely with the standards and guidelines set out in Resolutions of International Conferences of Labour Statisticians. Descriptions of the underlying concepts and structure of Australia's labour force statistics, and the sources and methods used in compiling the estimates, are presented in Labour Statistics: Concepts, Sources and Methods (cat. no. 6102.0.55.001) which is available on the ABS website <<https://www.abs.gov.au>>.

#### LABOUR FORCE SURVEY

**3** The Labour Force Survey is based on a multi-stage area sample of private dwellings (currently approximately 26,000 houses, flats, etc.) and a list sample of non-private dwellings (hotels, motels, etc.), and covers approximately 0.32% of the civilian population of Australia aged 15 years and over.

**4** Information is obtained from the occupants of selected dwellings by specially trained interviewers using computer-assisted interviewing, or self-completion online.

**5** Households selected for the Labour Force Survey are interviewed each month for eight months, with one-eighth of the sample being replaced each month. The first interview is generally conducted face-to-face. Subsequent interviews are conducted by telephone (if acceptable to the respondent).

**6** From December 2012 to April 2013, the ABS conducted a trial of online electronic data collection. Respondents in one rotation group (i.e. one-eighth of the survey sample) were offered the option of self completing their labour force survey questionnaire online instead of via a face-to-face or telephone interview. From May 2013, the ABS expanded the offer of online electronic collection to 50% of each new incoming rotation group. For more information see the article in the April 2013 issue of this publication. From September 2013, online electronic collection has been offered to 100% of private dwellings in each incoming rotation group. From April 2014, 100% of private dwellings are being offered online electronic collection.

**7** The interviews are generally conducted during the two weeks beginning on the Sunday between the 5th and 11th of each month. The information obtained relates to the week before the interview (i.e. the reference week). Each year, to deal with operational difficulties involved with collecting and processing the Labour Force Survey around the Christmas and New Year holiday period, interviews for December start four weeks after November interviews start (i.e. between the 3rd and 9th December), and January interviews start five weeks after December interviews start. As a result, January interviewing may commence as early as the 7th or as late as the 13th, depending on the year. Occasionally, circumstances that present significant operational difficulties for survey collection can result in a change to the normal pattern for the start of interviewing.

**8** Estimates from the Labour Force Survey are usually published first in this publication 32 days after the commencement of interviews for that month, with the exception of estimates for each December which are usually published 39 days after the commencement of interviews.

## **SCOPE OF SURVEY**

**9** The Labour Force Survey includes all persons aged 15 years and over except members of the permanent defence forces, certain diplomatic personnel of overseas governments customarily excluded from census and estimated population counts, overseas residents in Australia, and members of non-Australian defence forces (and their dependants) stationed in Australia.

## **COVERAGE**

**10** In the Labour Force Survey, coverage rules are applied which aim to ensure that each person is associated with only one dwelling, and hence has only one chance of selection. The coverage rules are necessarily a balance between theoretical and operational considerations. Nevertheless, the chance of a person being enumerated at two separate

dwellings in the survey is considered to be negligible.

## **POPULATION BENCHMARKS**

**11** The Labour Force Survey estimates are calculated in such a way as to add to independent estimates of the civilian population aged 15 years and over (population benchmarks). These population benchmarks are based on the most recently released estimates of Final and Preliminary quarterly Estimated Resident Population (ERP). For information on the methodology used to produce the ERP see Australian Demographic Statistics (cat. no. 3101.0). Since the most recently released ERP estimates lag the current time period for Labour Force estimates by nine months, the Labour Force population benchmarks are created by projecting forward three quarters past the most recently released quarterly ERP estimates. The projection is based on the historical pattern of each population component - births, deaths, interstate migration and net overseas migration (NOM). Projected estimates of NOM are supplemented with other data sources to better forecast population changes in the short-term. The main data source is the forecasts published by the Department of Immigration & Border Protection in the publication **The Outlook for Net Overseas Migration**.

**12** Commencing in March 2010, the ERP series has been revised twice-yearly, in the March and September quarter issues of Australian Demographic Statistics (cat. no. 3101.0). This biannual revision cycle incorporates more up to date information available for NOM. From November 2012, each biannual revision to ERP estimates have been used to update the population benchmarks used in creating the Labour Force Survey estimates, usually resulting in revisions to approximately the last two years of the historical time series.

**13** Every five years, the ERP series are revised to incorporate additional information available from the latest Census of Population and Housing (Census). Labour Force Survey population benchmarks, and the estimates, are revised following this five-yearly revision in the ERP. The process of incorporating the revised population benchmarks is referred to as 'rebasings'. From the January 2014 issue of this publication, labour force estimates have been compiled using population benchmarks based on the results of the 2011 Census. Revisions were made to historical Labour Force estimates from June 2006 to December 2013. In addition, estimates from July 1991 to May 2006 were revised to reflect population benchmarks based on ERP revised following the 2011 Census. The next rebasing based on the Census will be following the release of the 2016 Census-based ERP estimates, which will incorporate revisions back five years. For more information on revised ERP estimates, refer to the June 2012 issue of Australian Demographic Statistics (cat. no. 3101.0) released in December 2012.

**14** In between Censuses, the ABS revises the Labour Force population benchmarks using the latest ERP according to the paragraphs above. These were introduced in the July 2010, November 2012 and April 2013 issues. The revisions planned for the October 2013 issue and April 2014 issues were not implemented, see What's New in the Labour Force in the September 2013 issue of this publication. From the October 2014 issue, following the Census rebasing in the January 2014 issue, rebenchmarking will be undertaken quarterly in the April, July, October and January issues. For more information, refer to the article Rebenchmarking of Labour Force Series in the November 2012 issue of this publication.

## **ESTIMATION METHOD**

**15** The estimation method used in the Labour Force Survey is Composite Estimation, which was introduced in May 2007. In January 2014 composite estimation was applied to all

estimates from July 1991 as part of the 2011 Census rebenchmarking. Composite Estimation combines data collected in the previous six months with current month's data to produce the current month's estimates, thereby exploiting the high correlation between overlapping samples across months in the Labour Force Survey. The Composite Estimator combines the previous and current months' data by applying different factors according to length of time in the survey. After these factors are applied, the seven months of data are weighted to align with current month population benchmarks. For details see Information Paper: Forthcoming Changes to Labour Force Statistics, 2007 (cat. no. 6292.0).

## **COMPARABILITY OF SERIES**

**16** From April 1986, the definition of employed persons was changed to include persons who worked without pay between 1 and 14 hours per week in a family business or on a farm (i.e. contributing family workers). For further information, see paragraphs 22 and 23 of the Explanatory Notes in the February 2003 issue of Labour Force, Australia (cat. no. 6203.0).

**17** The ABS introduced telephone interviewing into the Labour Force Survey in August 1996. Implementation was phased in for each new sample group from August 1996 to February 1997. During the period of implementation, the new method produced different estimates than would have been obtained under the old methodology. The effect dissipated over the final months of implementation and was no longer discernible from February 1997. The estimates for February 1997 and onwards are directly comparable to estimates for periods prior to August 1996. For further details, see the feature article in the June 1997 issue of Labour Force, Australia (cat. no. 6203.0).

**18** From April 2001 the Labour Force Survey was conducted using a redesigned questionnaire containing additional data items and some minor definitional changes. The definition of unemployed persons was changed to include all persons who were waiting to start work and were available to start in the reference week. This change was introduced in February 2004, when historical unit record data were revised from April 2001 to January 2004. This revision created a small trend break at April 2001 in unemployed persons and unemployment rate series. For further details, see Information Paper: Forthcoming Changes to Labour Force Statistics, 2003 (cat. no. 6292.0), released in December 2003. From July 2014 the Labour Force Survey questionnaire was further redesigned and definitional changes made to active job search steps and duration of job search. For further details, see the Glossary and Information Paper: Forthcoming Changes to Labour Force Statistics, June 2014 (cat. no. 6292.0), released in June 2014.

**19** Core labour force series were revised in April 2001 for the period April 1986 to March 2001 for the remaining definitional changes introduced with the redesigned questionnaire, to reduce the impact of the changes on labour force series. For further details, see Information Paper: Implementing the Redesigning Labour Force Survey Questionnaire (cat. no. 6295.0) and Information Paper: Questionnaires Used in the Labour Force Survey (cat. no. 6232.0).

**20** In May 2007, an improved method of estimation, known as composite estimation, was introduced into the Labour Force Survey. In introducing this change, the ABS revised unit record data from April 2001 to April 2007 based on the new estimation method. No change was identified in the trend breaks in the unemployed persons and unemployment rate series which arose with the introduction of a redesigned survey form in April 2001 (as noted above in paragraph 19). For further details, see Information Paper: Forthcoming Changes to Labour Force Statistics, 2007 (cat. no. 6292.0).

**21** As one of a range of ABS savings initiatives for the 2008-09 financial year, there was a 24% reduction in the LFS sample size for the period July 2008 to August 2009, relative to

the June 2008 sample size. The sample reduction was reversed from September 2009 to December 2009, with December 2009 estimates being the first produced under the fully reinstated sample.

## **LABOUR FORCE SURVEY SAMPLE**

**22** The current Labour Force Survey sample has been selected using information collected in the 2011 Census of Population and Housing.

**23** The sample was introduced over four months - May 2013 to August 2013. Two rotation groups (i.e. one-quarter of the survey sample) were introduced each month. During the sample phase-in, the increased sample rotation had an impact on the quality of estimates. Movement standard errors increased by approximately 10%, representing, for example, an increase on the standard error on the Australian monthly change in employment for May 2013 from 27,000 to approximately 29,700.

**24** Due to the use of composite estimation, there was a marginal impact on the quality of level estimates. Gross Flows analysis were impacted by the sample phase-in with between 60% to 70% of the sample available for matching between the current and previous months instead of the usual 80%. After full transition to the new sample, the quality of level and movement estimates is at the level designed for under the 2011 sample design and are of similar quality as the 2006 sample design. For further details, see Information Paper: Labour Force Survey Sample Design (cat. no. 6269.0) released on 30 May 2013.

## **RELIABILITY OF ESTIMATES**

**25** Two types of error are possible in an estimate based on a sample survey: sampling error and non-sampling error.

**26** Sampling error occurs because a sample, rather than the entire population, is surveyed. One measure of the likely difference resulting from not including all dwellings in the survey is given by the standard error. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if all dwellings had been included in the survey, and about nineteen chances in twenty that the difference will be less than two standard errors. Standard errors of key estimates for the latest month and of movements since the previous month of these estimates are shown in the standard errors section of this publication. Standard errors for other estimates and other movements may be calculated by using the spreadsheet contained in Labour Force Survey Standard Errors, Data Cube (cat. no. 6298.0.55.001) which is available free of charge on the ABS website <<https://www.abs.gov.au>>.

**27** Non-sampling error arises from inaccuracies in collecting, recording and processing the data. Every effort is made to minimise reporting error by the careful design of questionnaires, intensive training and supervision of interviewers, and efficient data processing procedures. Non-sampling error also arises because information cannot be obtained from all persons selected in the survey. The Labour Force Survey receives a high level of co-operation from individuals in selected dwellings, with the average response rate over the last year being 94%. See Glossary for definition of response rate.

## **SEASONAL ADJUSTMENT AND TREND ESTIMATION**

**28** Seasonal adjustment is a means of removing the estimated effects of normal seasonal

variation from the series so that the effects of other influences on the series can be more clearly recognised. Seasonal adjustment does not aim to remove the irregular or non-seasonal influences which may be present in any particular month. This means that month-to-month movements of the seasonally adjusted estimates may not be reliable indicators of trend behaviour.

**29** The Labour Force Survey uses the concurrent seasonal adjustment method to derive seasonal factors. Concurrent seasonal adjustment uses data up to the current month to estimate seasonal factors for the current and all previous months. This process can result in revisions each month to estimates for earlier periods. However, in most instances, the only noticeable revisions will be to the seasonally adjusted estimates for the previous month and one year prior to the current month.

**30** The revision properties of the seasonally adjusted and trend estimates can be improved by the use of Autoregressive Integrated Moving Average (ARIMA) modelling. ARIMA modelling relies on the characteristics of the series being analysed to project future period data. The projected values are temporary, intermediate values, that are only used internally to improve the estimation of the seasonal factors. The projected data do not affect the original estimates and are discarded at the end of the seasonal adjustment process. The Labour Force Survey uses an ARIMA model for the majority of the individual time series. The ARIMA model is assessed as part of the annual reanalysis. For further details, see the feature article in the October 2004 issue of Australian Economic Indicators (cat. no. 1350.0).

**31** Seasonal adjustment is able to remove the effect of events which occur at the same time in the survey every year. However, there are some events, like holidays, which are not always at the same time in the survey cycle or which are not at the same time across Australia. The effects of these types of events on Labour Force Survey estimates cannot in all cases be removed, because the pattern of their effects cannot be determined. However, two events for which adjustment is made in the seasonally adjusted series are the January interview start date and the timing of Easter. For further details, see Information Paper: Forthcoming Changes to Labour Force Statistics (cat. no. 6292.0) released in December 2003.

**32** While seasonal factors for the complete time series are estimated each month, they will continue to be reviewed annually at a more detailed level to take into account each additional year's original data. This annual review will not normally result in significant changes to published estimates. The review is usually conducted in February each year with the results released in the February issue of this publication.

**33** The smoothing of seasonally adjusted series to produce 'trend' series reduces the impact of the irregular component of the seasonally adjusted series. These trend estimates are derived by applying a 13-term Henderson-weighted moving average to all months except the last six. The last six monthly trend estimates are obtained by applying surrogates of the Henderson average to the seasonally adjusted series. Trend estimates are used to analyse the underlying behaviour of a series over time.

**34** While this smoothing technique enables estimates to be produced for the latest month, it does result in revisions in addition to those caused by the revision of seasonally adjusted estimates. Generally, revisions due to the use of surrogates of the Henderson average become smaller, and after three months have a negligible impact on the series.

**35** Trend estimates are published for the Northern Territory in table 10 and for the Australian Capital Territory in table 11. Unadjusted series for the two Territories have shown, historically, a high degree of variability, which can lead to considerable revisions to the seasonally adjusted estimates each month when seasonal factors are estimated. For this

reason, seasonally adjusted estimates are not currently published for the two Territories. In addition, caution should be exercised in the interpretation of trend estimates for the two Territories, particularly for the three most recent months, where revisions may be relatively large.

**36** For further information, see A Guide to Interpreting Time Series - Monitoring Trends (cat. no. 1349.0) or contact the Assistant Director, Time Series Analysis on (02) 6252 6345 or email [time.series.analysis@abs.gov.au](mailto:time.series.analysis@abs.gov.au).

## RELATED PUBLICATIONS

**37** Users may also wish to refer to the following publications:

- Labour Force Survey Standard Products and Data Item Guide (cat.no. 6103.0). This publication is a reference guide for users of Labour Force Survey data standard products.
- Australian Labour Market Statistics (cat. no. 6105.0). This publication presents key indicators of the labour market, articles on a range of labour market issues, and information about the latest developments in the labour statistics program. For further information about this publication, please contact Labour Market Statistics on (02) 6252 7206.

**38** ABS information about the labour market can be found on the Topics @ a Glance page on the ABS website <<https://www.abs.gov.au>>.

**39** Information about current publications and other products released by the ABS is available from the statistics page on the ABS website. The ABS also issues a daily release advice on the website, Upcoming Product Releases, which details products to be released in the week ahead.

## DATA AVAILABLE ON REQUEST

**40** As well as the statistics included in this and related publications, the ABS may have other relevant data available. Inquiries should be made to the Labour Force contact officer on (02) 6252 6525, email [labourforce@abs.gov.au](mailto:labourforce@abs.gov.au) or to any ABS office. The ABS Privacy Policy outlines how the ABS will handle any personal information that you provide to us.

## EFFECTS OF ROUNDING

**41** Estimates have been rounded and discrepancies may occur between sums of the component items and totals. Estimates of movement shown in this publication are obtained by taking the difference of unrounded estimates. The movement estimate is then rounded. Where a discrepancy occurs between the reported movement and the difference of the rounded estimates, the reported movement will be more accurate.

## SYMBOLS AND ABBREVIATIONS

### 42 SYMBOLS AND ABBREVIATIONS

Symbol	Definition
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'000	thousands
%	percentage
ABS	Australian Bureau of Statistics
CAI	computer assisted interviewing
cat. no.	catalogue number
ERP	estimated resident population
f/t	full time
LFS	Labour Force Survey
p/t	part time
pts	percentage points
Seas adj.	seasonally adjusted
TAFE	Technical and Further Education

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## Glossary

### GLOSSARY

#### Actively looking for work

Includes written, telephoned or applied to an employer for work; had an interview with an employer for work; answered an advertisement for a job; checked or registered with a Job Services Australia provider or any other employment agency; taken steps to purchase or start your own business; advertised or tendered for work; and contacted friends or relatives in order to obtain work.

#### Actual hours of work

Actual hours of work refers to a specified reference period and includes:

- hours actually worked during normal periods of work;
- time spent in addition to hours worked during normal periods of work (including overtime);
- time spent at the place of work on activities such as the preparation of the workplace, repairs and maintenance, preparation and cleaning of tools, and the preparation of receipts, time sheets and reports;
- time spent at the place of work waiting or standing by; and
- time corresponding to short rest periods.

Excluded are:

- hours paid for but not worked, such as paid annual leave, public holidays or paid sick leave;
- meal breaks; and
- time spent on travel to and from work (excluding some self-employed).

For multiple job holders actual hours worked should equal the hours worked at all jobs.



## **Aggregate monthly hours worked**

Aggregate monthly hours worked measures the total number of actual hours worked by employed persons in a calendar month. It differs from the actual hours worked estimates (and the usual hours worked estimates) since these refer only to the hours worked in the reference week.

The methodology used to produce aggregate monthly hours worked means that these are synthetic estimates. Seasonally adjusted and trend estimates of aggregate monthly hours worked are available for the period July 1978 onwards.

Further information on the methodology used to produce the aggregate monthly hours worked estimates is available on the ABS website in **Information Paper: Expansion of Hours Worked Estimates from the Labour Force Survey** (cat. no. 6290.0.55.001).

Actual and usual hours worked cannot be aggregated across time to produce either quarterly or annual estimates as they relate to only a single week in the month. In contrast, aggregate monthly hours worked estimates are a true monthly measure, and may be aggregated across time to produce both quarterly and annual estimates.

## **Attending full time education**

Persons aged 15-24 years enrolled at secondary or high school or enrolled as a full time student at a Technical and Further Education (TAFE) college, university, or other educational institution in the reference week.

## **Attending school**

Persons aged 15-19 years enrolled at secondary or high school in the reference week.

## **Attending tertiary educational institution full time**

Persons aged 15-24 years enrolled full time at a TAFE college, university, or other educational institution in the reference week, except those persons aged 15-19 years who were still attending school.

## **Civilian population aged 15 years and over**

All usual residents of Australia aged 15 years and over except members of the permanent defence forces, certain diplomatic personnel of overseas governments customarily excluded from census and estimated population counts, overseas residents in Australia, and members of non-Australian defence forces (and their dependants) stationed in Australia.

## **Composite Estimation**

The estimation methodology used in the Labour Force Survey. Composite Estimation uses sample responses from nearby months as well as from the reference month to derive estimates for the reference month. This approach achieves gains in efficiency by exploiting the high similarity between the responses provided by the same respondent in previous months. For details see Information Paper: Forthcoming Changes to Labour Force Statistics, 2007 (cat. no. 6292.0).

## **Employed**

All persons aged 15 years and over who, during the reference week:

- worked for one hour or more for pay, profit, commission or payment in kind in a job or business, or on a farm (comprising employees, employers and own account workers); or
- worked for one hour or more without pay in a family business or on a farm (i.e. contributing family workers); or
- were employees who had a job but were not at work and were:
  - away from work for fewer than four weeks up to the end of the reference week; or
  - away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of the reference week; or
  - away from work as a standard work or shift arrangement; or
  - on strike or locked out; or
  - on workers' compensation and expected to return to their job; or
- were employers or own account workers, who had a job, business or farm, but were not at work.

### **Employment to population ratio**

For any group, the number of employed persons expressed as a percentage of the civilian population in the same group.

### **Estimated resident population (ERP)**

Estimated resident population (ERP), is Australia's official measure of the population of Australia and is based on the concept of usual residence. It refers to all people, regardless of nationality, citizenship or legal status, who usually live in Australia, with the exception of foreign diplomatic personnel and their families. It includes usual residents who are overseas for fewer than 12 months. It excludes overseas visitors who are in Australia for fewer than 12 months. Refer to Australian Demographic Statistics (cat. no. 3101.0).

### **Flow estimates**

Flow estimates are a measure of activity over a given period. For example, aggregate monthly hours worked is a measure of the total number of hours worked in a calendar month.

### **Full time workers**

Employed persons who usually worked 35 hours or more a week (in all jobs) and those who, although usually working fewer than 35 hours a week, worked 35 hours or more during the reference week.

### **Gross flows**

The matching of respondents who report in consecutive months enables analysis of the transition of individuals between the different labour force status classifications, referred to as the matched sample. The transition counts between the different labour force status classifications from one point in time to the next are commonly referred to as gross flows.

The figures presented in gross flows are presented in original terms only and do not align with published labour force estimates. The gross flows figures are derived from the matched

sample between consecutive months, which after taking account of the sample rotation and varying non-response in each month is approximately 80 percent of the sample.

Caution should be exercised when analysing these gross flows data due to:

- the figures presented sum to approximately 80 percent of the population values as the gross flows data are based on the matched sample only;
- there is no adjustment applied to account for changes due to seasonal patterns (referred to commonly as seasonal adjustment); and
- the estimates of relative sizes of each transition class are subject to bias due to the matched sample being a non-representative sample.

## **Labour force**

For any group, persons who were employed or unemployed, as defined.

### **Labour force status**

A classification of the civilian population aged 15 years and over into employed, unemployed or not in the labour force, as defined. The definitions conform closely to the international standard definitions adopted by the International Conferences of Labour Statisticians.

### **Labour force underutilisation rate**

The sum of the number of persons unemployed and the number of persons in underemployment, expressed as a proportion of the labour force.

### **Long-term unemployed**

The number of persons unemployed for 52 weeks or over.

### **Long-term unemployment ratio**

The number of long-term unemployed persons, expressed as a percentage of the total unemployed population.

## **Market sector**

The market sector is an industry grouping comprising the following industries: Agriculture, forestry and fishing; Mining; Manufacturing; Electricity, gas, water and waste services; Construction; Wholesale trade; Retail trade; Accommodation and food services; Transport, postal and warehousing; Information media and telecommunications; Finance and insurance services; Rental, hiring and real estate services; Professional, scientific and technical services; Administrative and support services; Arts and recreation services; and Other services. Refer to Australian National Accounts: Concepts, Sources and Methods (cat. no. 5216.0).

## **Non-market Sector**

The non-market sector is an industry grouping comprising the following industries: Education and training; Public administration & safety; and Health care and social assistance. Refer to Australian National Accounts: Concepts, Sources and Methods (cat. no. 5216.0).

## **Not in labour force**

Persons who were not in the categories employed or unemployed, as defined.

## **Participation rate**

For any group, the labour force expressed as a percentage of the civilian population aged 15 years and over in the same group.

## **Part time workers**

Employed persons who usually worked fewer than 35 hours a week (in all jobs) and either did so during the reference week or were not at work during the reference week.

## **Response rate**

The number of fully responding dwellings expressed as a percentage of the total number of dwellings excluding sample loss. Examples of sample loss include: dwellings where all persons are out of scope and/or coverage; vacant dwellings; dwellings under construction; dwellings converted to non-dwellings; derelict dwellings; and demolished dwellings.

## **Seasonally adjusted series**

A time series of estimates with the estimated effects of normal seasonal variation removed. See Explanatory Notes paragraphs 28 to 32 for more detail.

## **Stock estimates**

Stock estimates are a measure of certain attributes at a point in time and can be thought of as **stocktakes**. For example, the total number of employed persons is an account of the number of people who were considered employed in the Labour Force Survey reference week.

## **Trend series**

A smoothed seasonally adjusted series of estimates. See Explanatory Notes paragraphs 33 to 36 for more detail.

## **Underemployment rate**

The number of underemployed workers expressed as a percentage of the labour force.

## **Underemployed workers**

Employed persons aged 15 years and over who want, and are available for, more hours of work than they currently have. They comprise:

- persons employed part time who want to work more hours and are available to start work with more hours, either in the reference week or in the four weeks subsequent to the survey; or
- persons employed full time who worked part time hours in the reference week for economic reasons (such as being stood down or insufficient work being available). It is assumed that these people wanted to work full time in the reference week and would have been available to do so.

## **Unemployed**

Persons aged 15 years and over who were not employed during the reference week, and:

- had actively looked for full time or part time work at any time in the four weeks up to the end of the reference week and were available for work in the reference week; or
- were waiting to start a new job within four weeks from the end of the reference week and could have started in the reference week if the job had been available then.

### **Unemployed looking for full time work**

Unemployed persons who:

- actively looked for full time work; or
- were waiting to start a new full time job.

### **Unemployed looking for part time work**

Unemployed persons who:

- actively looked for part time work only; or
- were waiting to start a new part time job.

## **Unemployment rate**

For any group, the number of unemployed persons expressed as a percentage of the labour force in the same group.

## **Unemployment to population ratio**

For any group, the number of unemployed persons expressed as a percentage of the civilian population in the same group.

## **Usual hours of work**

Usual hours of work refers to a typical period rather than to a specified reference period. The concept of usual hours applies both to persons at work and to persons temporarily absent from work, and is defined as the hours worked during a typical week or day. Actual hours worked (for a specific reference period) may differ from usual hours worked due to illness, vacation, strike, overtime work, a change of job, or similar reasons.

# **Quality Declaration - Summary**

## **QUALITY DECLARATION - SUMMARY**

### **INSTITUTIONAL ENVIRONMENT**

Labour Force statistics are compiled from the Labour Force Survey which is conducted each

month throughout Australia as part of the Australian Bureau of Statistics (ABS) household survey program. For information on the institutional environment of the ABS, including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see ABS Institutional Environment.

## **RELEVANCE**

The Labour Force Survey provides monthly information about the labour market activity of Australia's resident civilian population aged 15 years and over. The Labour Force Survey is designed to primarily provide estimates of employment and unemployment for the whole of Australia and, secondarily, for each state and territory.

## **TIMELINESS**

The Labour Force Survey enumeration begins on the Sunday between the 5th and 11th of the month, except for the Christmas and New Year holiday period. In December enumerations starts between the 3rd and 9th (4 weeks after November enumeration begins). In January enumeration starts between the 7th and 13th (5 weeks after December enumeration begins).

Key estimates from the Labour Force Survey are published in two stages. The first, Labour Force, Australia (cat. no. 6202.0), is released 32 days after the commencement of enumeration for the month, with the exception of estimates for December which are published 39 days after the commencement of enumeration.

The second stage includes detailed data that were not part of the first stage and are published in Labour Force, Australia, Detailed - Electronic Delivery (cat. no. 6291.0.55.001) and Labour Force, Australia, Detailed, Quarterly (cat. no. 6291.0.55.003). The second stage is released 7 days after the first stage.

## **ACCURACY**

The Labour Force Survey is based on a sample of private dwellings (approximately 26,000 houses, flats etc) and non-private dwellings, such as hotels and motels. The sample covers about 0.32% of the Australian civilian population aged 15 years or over. The Labour Force Survey is designed primarily to provide estimates of key labour force statistics for the whole of Australia and, secondarily, for each state and territory.

Two types of error are possible in an estimate based on a sample survey: non-sampling error and sampling error.

Non-sampling error arises from inaccuracies in collecting, recording and processing the data. Every effort is made to minimise reporting error by the careful design of questionnaires, intensive training and supervision of interviewers, and efficient data processing procedures. Non-sampling error also arises because information cannot be obtained from all persons selected in the survey. The Labour Force Survey receives a high level of cooperation, with an average response rate for the last year being 94%.

Sampling error occurs because a sample, rather than the entire population, is surveyed. One measure of the likely difference resulting from not including all dwellings in the survey is given by the standard error. There are about two chances in three that a sample estimate

will differ by less than one standard error from the figure that would have been obtained if all dwellings had been included in the survey, and about nineteen chances in twenty that the difference will be less than two standard errors.

Standard errors of key estimates and movements since the previous month are available in Labour Force, Australia (cat. no. 6202.0). The standard error of other estimates and movements may be calculated by using the spreadsheet contained in Labour Force Survey Standard Errors, Data Cube (cat. no. 6298.0.55.001).

## **COHERENCE**

The ABS has been conducting the Labour Force Survey each month since February 1978. While seeking to provide a high degree of consistency and comparability over time by minimising changes to the survey, sound survey practice requires careful and continuing maintenance and development to maintain the integrity of the data and the efficiency of the collection.

The changes which have been made to the Labour Force Survey have included changes in sampling methods, estimation methods, concepts, data item definitions, classifications, and time series analysis techniques. In introducing these changes the ABS has generally revised previous estimates to ensure consistency and coherence with current estimates. For a full list of changes made to the Labour Force Survey see Chapter 20 in Labour Statistics: Concepts, Sources and Methods (cat. no. 6102.0.55.001).

## **INTERPRETABILITY**

The key estimates from the Labour Force Survey are available as original, seasonally adjusted and trend series. Seasonal adjustment is a means of removing the effects of normal seasonal variation from the series so other influences on the series can be more clearly recognised. Seasonal adjustment does not aim to remove the irregular influences which may be present and therefore month-to-month movements may not be reliable indicators of underlying behaviour. To assist in interpreting the underlying behaviour, the ABS produces the trend series by smoothing the seasonally adjusted series to reduce the impact of the irregular component. For further information, see A Guide to Interpreting Time Series - Monitoring Trends (cat. no. 1349.0).

Further information on the terminology and other technical aspects associated with statistics from the Labour Force Survey can be found in the publication Labour Force, Australia (cat. no. 6202.0), which contains detailed Explanatory Notes, Standard Error information and a Glossary.

## **ACCESSIBILITY**

Please see the Related Information tab for the list of products that are available from this collection.

## **What If**

## WHAT IF...? REVISIONS TO TREND ESTIMATES

### EFFECT OF NEW SEASONALLY ADJUSTED ESTIMATES ON TREND ESTIMATES

#### TREND REVISIONS

Each time new seasonally adjusted estimates become available, trend estimates are revised. This revision is a combined result of the concurrent seasonal adjustment process and the application of surrogates of the Henderson average to the seasonally adjusted series (see paragraphs 28 to 36 of the Explanatory Notes).

The examples in the tables below show two illustrative scenarios and the consequent revisions to previous trend estimates of employment and the unemployment rate. The revisions in the scenarios are due to the use of surrogates of the Henderson average, as the impact of revision of seasonally adjusted estimates can not be estimated in advance.

**1** The August seasonally adjusted estimate is **higher** than the July estimate by:

0.24% for employment

2.20% for the unemployment rate

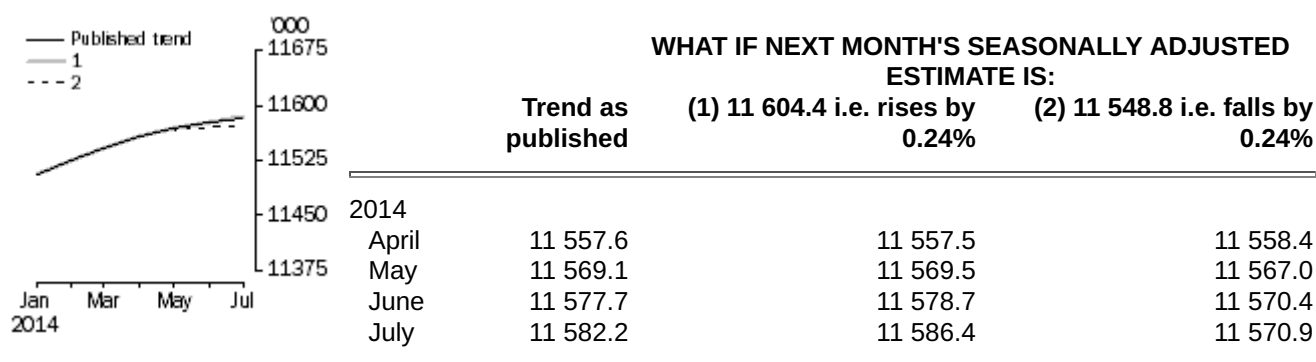
**2** The August seasonally adjusted estimate is **lower** than the July estimate by:

0.24% for employment

2.20% for the unemployment rate

The percentage changes of 0.24% and 2.20% represent the average absolute monthly percentage changes in employment and the unemployment rate respectively. Estimates in the graphs have been calculated using unrounded estimates, and may be different from, but more accurate than, rounded estimates depicted in the corresponding table.

#### Employment



#### Unemployment Rate





#### WHAT IF NEXT MONTH'S SEASONALLY ADJUSTED ESTIMATE IS:

	Trend as published	(1) 6.5 i.e. rises by 2.20%	(2) 6.2 i.e. falls by 2.20%
2014			
April	5.9	5.9	5.9
May	6.0	6.0	6.0
June	6.1	6.1	6.1
July	6.1	6.2	6.2

## Data Cubes (I-Note) - Data Cubes

The simultaneous introduction of two rotation groups per month between May and August 2013 will result in a lower proportion of the sample being matched during this period. In June 2013, the new sample for the more remote, less populated areas and non-private dwellings were introduced for Tasmania, Northern Territory and the Australian Capital Territory. The new sample in these areas in New South Wales, Victoria, Queensland, South Australia and Western Australia were introduced in July 2013. These are reflected in smaller estimates in the gross flows.

## Standard Errors

### STANDARD ERRORS

### STANDARD ERRORS

The estimates in this publication are based on information gained from the occupants of a sample survey of dwellings. Because the entire population is not surveyed, the published original, seasonally adjusted and trend estimates are subject to sampling error. The most common way of quantifying such sampling error is to calculate the standard error for the published estimate or statistic. For more information, see paragraphs 25 to 27 of the Explanatory Notes.

### LEVEL ESTIMATES

To illustrate, let us say the published level estimate for employed persons aged 15-19 years is 700,000 and the associated standard error is 9,000. The standard error is then used to interpret the level estimate of 700,000. For instance, the standard error of 9,000 indicates that:

- There are approximately two chances in three that the real value falls within the range 691,000 to 709,000 ( $700,000 \pm 9,000$ )
- There are approximately nineteen chances in twenty that the real value falls within the

range 682,000 to 718,000 (700,000 + or - 18,000).

The real value in this case is the result we would obtain if we could enumerate the total population.

The following table shows the standard errors for this month's level estimates.

											AUSTRALIA			
			NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Males	Females	Persons	
<hr/>														
Aged 15 years and over														
Employed														
	Full time	'000	25.5	18.1	17.3	7.4	11.4	2.9	2.3	2.9	31.8	23.0	38.5	
	Part time	'000	17.8	12.0	11.6	5.5	8.1	2.2	0.7	2.0	13.2	20.9	25.8	
	Total	'000	27.9	22.3	19.8	8.6	12.4	3.4	2.7	3.0	34.6	32.1	43.6	
Unemployed														
	Looking for f/t work	'000	9.2	8.4	8.4	3.3	4.5	1.3	0.8	0.9	12.4	10.1	16.1	
	Looking for p/t work	'000	5.5	5.4	5.0	1.9	2.5	0.7	0.4	0.7	6.2	7.4	9.7	
	Total	'000	10.8	10.0	9.3	3.7	5.2	1.4	1.1	1.2	13.9	12.6	19.0	
Labour force			'000	28.3	23.1	20.3	8.8	12.6	3.5	2.8	3.0	35.6	33.0	44.4
Not in labour force			'000	24.4	20.9	22.3	8.2	11.9	3.5	3.2	3.1	30.8	35.7	42.1
Unemployment rate														
	Looking for f/t work	pts	0.3	0.4	0.5	0.6	0.4	0.8	0.7	0.5	0.2	0.3	0.2	
	Looking for p/t work	pts	0.5	0.5	0.7	0.7	0.6	0.7	1.7	1.2	0.5	0.3	0.3	
	Total	pts	0.3	0.3	0.4	0.4	0.4	0.6	0.8	0.5	0.2	0.2	0.2	
Participation rate			pts	0.5	0.5	0.5	0.6	0.6	0.8	1.5	1.0	0.4	0.3	0.2
<hr/>														
Aged 15-19 years														
Employed														
	Full time	'000	4.0	2.0	2.8	1.0	2.0	0.5	0.2	0.4	4.9	3.9	5.8	
	Part time	'000	5.4	3.6	4.0	1.7	2.4	0.7	0.2	0.7	6.0	7.0	8.8	
	Total	'000	6.3	4.0	4.9	1.9	3.1	0.8	0.3	0.8	7.3	7.6	10.3	
Unemployed														
	Looking for f/t work	'000	3.2	2.3	3.5	0.9	1.4	0.4	0.2	0.3	4.3	3.4	5.5	
	Looking for p/t work	'000	2.9	3.2	3.1	1.4	1.4	0.5	0.1	0.5	4.2	4.2	5.9	
	Total	'000	4.5	4.0	4.9	1.7	2.0	0.7	0.3	0.6	6.0	5.4	8.1	
Labour force			'000	7.0	4.4	5.5	2.2	3.4	1.0	0.3	0.9	8.1	8.2	11.4
Not in labour force			'000	9.8	5.7	7.6	3.0	4.2	1.1	0.8	1.3	10.6	9.8	14.9
Unemployment rate														
	Looking for f/t work	pts	3.8	5.7	5.0	7.0	3.7	7.9	5.9	13.4	2.6	3.6	2.2	
	Looking for p/t work	pts	2.0	2.1	2.5	3.3	2.5	3.6	3.5	5.2	1.7	1.3	1.1	
	Total	pts	1.9	2.1	2.5	3.1	2.1	3.5	3.5	4.9	1.5	1.3	1.0	
Participation rate			pts	1.5	1.2	1.8	2.1	2.1	2.8	1.9	3.7	1.1	1.1	0.8
Unemployment to population ratio - looking for f/t work			pts	0.7	0.6	1.1	0.8	0.8	1.3	1.5	1.5	0.6	0.5	0.4
<hr/>														

## MOVEMENT ESTIMATES

The following example illustrates how to use the standard error to interpret a movement estimate. Let us say that one month the published level estimate for females employed part-time in Australia is 1,890,000; the next month the published level estimate is 1,900,000 and the associated standard error for the movement estimate is 11,900. The standard error is then used to interpret the published movement estimate of 10,000. For instance, the standard error of 11,900 indicates that:

- There are approximately two chances in three that the real movement between the two months falls within the range - 1,900 to 21,900 (10,000 + or - 11,900)
- There are approximately nineteen chances in twenty that the real movement falls

within the range - 13,800 to 33,800 (10,000 + or - 23,800).

The following table shows the standard errors for this month's movement estimates.

AUSTRALIA												
NSW Vic. Qld SA WA Tas. NT ACT Males Females Persons												
<hr/>												
Aged 15 years and over												
Employed												
Full time	'000	14.8	11.9	9.3	3.9	6.8	1.7	1.8	1.8	18.4	13.5	23.4
Part time	'000	9.6	8.2	5.9	2.8	4.3	1.3	0.8	1.1	8.6	12.6	15.2
Total	'000	17.8	14.7	12.7	5.5	8.7	2.2	2.0	2.1	20.4	18.7	28.7
Unemployed												
Looking for f/t work	'000	9.4	8.3	7.8	3.4	4.7	1.2	0.8	1.1	12.3	10.0	16.0
Looking for p/t work	'000	5.7	5.4	4.4	1.9	2.7	0.7	0.5	0.8	6.2	7.3	9.6
Total	'000	11.1	9.9	9.1	3.9	5.4	1.4	0.9	1.3	13.8	12.5	18.9
Labour force	'000	18.3	15.2	13.5	5.9	9.0	2.3	2.0	2.2	21.1	19.3	29.8
Not in labour force	'000	18.1	15.1	13.2	5.8	8.8	2.2	2.1	2.2	17.8	21.9	29.3
Unemployment rate												
Looking for f/t work	pts	0.4	0.4	0.5	0.6	0.5	0.8	0.8	0.5	0.2	0.3	0.2
Looking for p/t work	pts	0.5	0.6	0.7	0.7	0.6	0.8	1.6	1.2	0.5	0.3	0.3
Total	pts	0.3	0.3	0.4	0.5	0.4	0.6	0.8	0.5	0.2	0.2	0.2
Participation rate	pts	0.3	0.3	0.4	0.4	0.4	0.5	1.1	0.7	0.2	0.2	0.2
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Aged 15-19 years												
Employed												
Full time	'000	2.6	1.8	1.8	0.7	1.5	0.3	0.3	0.3	3.5	2.8	4.0
Part time	'000	3.8	3.3	2.7	1.2	1.8	0.5	0.4	0.5	4.3	4.8	6.0
Total	'000	4.3	3.6	3.0	1.3	2.2	0.6	0.5	0.5	5.0	5.1	6.7
Unemployed												
Looking for f/t work	'000	3.4	2.5	3.1	1.1	1.7	0.5	0.4	0.4	4.3	3.4	5.5
Looking for p/t work	'000	3.2	3.3	2.8	1.4	1.5	0.5	0.1	0.6	4.2	4.2	5.9
Total	'000	4.6	4.0	4.3	1.7	2.3	0.7	0.4	0.8	6.0	5.4	8.1
Labour force	'000	4.6	3.9	3.3	1.5	2.3	0.7	0.5	0.6	5.4	5.5	7.3
Not in labour force	'000	6.0	4.8	3.7	1.8	2.8	0.7	0.9	0.7	6.9	6.6	9.1
Unemployment rate												
Looking for f/t work	pts	4.3	6.2	5.4	7.8	4.7	9.0	7.0	14.4	2.9	4.4	2.4
Looking for p/t work	pts	2.0	2.2	2.5	3.2	2.6	3.8	3.5	5.4	1.8	1.4	1.1
Total	pts	2.0	2.2	2.5	3.2	2.3	3.8	3.9	5.1	1.6	1.4	1.0
Participation rate	pts	1.0	1.1	1.1	1.4	1.4	2.0	3.2	2.6	0.7	0.8	0.5
Unemployment to population ratio - looking for f/t work	pts	0.7	0.7	1.0	1.1	1.1	1.4	2.2	1.6	0.6	0.5	0.4
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